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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/578,876	05/11/2006	Richard Topliss	117-586	5035
23117 7590 01/29/2010 NIXON & VANDERHYE, PC 901 NORTH GLEBE ROAD, 11TH FLOOR ARLINGTON, VA 22203				
EXAMINER				
LE, HUYEN D				
ART UNIT		PAPER NUMBER		
2614				
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01/20/2010		PAPER		

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

### Office Action Summary

**Application No.**

10/578,876

**Applicant(s)**

TOPLISS ET AL.

**Examiner**

HUYEN D. LE

**Art Unit**

2614

**Period for Reply** -- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 11 May 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-26 and 29-32 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 29 is/are allowed.
- 6) ☒ Claim(s) 1-7, 9-11, 16, 18-23, 25, 26 and 30-32 is/are rejected.
- 7) ☒ Claim(s) 8, 12-15, 17 and 24 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date 05/11/06.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date: \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_.

**DETAILED ACTION**

***Claim Rejections - 35 USC § 102***

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. Claims 1-7, 9-11, 16, 18-23, 25, 26 and 30-32 are rejected under 35 U.S.C. 102(e) as being anticipated by Longbottom et al. (US 7,302,068)

The applied reference has a common inventor with the instant application. Based upon the earlier effective U.S. filing date of the reference, it constitutes prior art under 35 U.S.C. 102(e). This rejection under 35 U.S.C. 102(e) might be overcome either by a showing under 37 CFR 1.132 that any invention disclosed but not claimed in the reference was derived from the inventor of this application and is thus not the invention “by another,” or by an appropriate showing under 37 CFR 1.131.

Regarding claims 1-4 and 31, Longbottom et al. teaches a loudspeaker comprising a sound generating element (25, 45, 55, 145) mounted on a support structure (44, 48, 51, 146), and two rotary actuators (piezoelectric actuators 26, 46, 56, 146) mounted at opposing edges of the sound generating element and operable to drive motion of the sound generating element relative to the support structure by rotating the edges as claimed (figures 4, 5B, 5C, 14).

Regarding claim 5, Longbottom et al. teaches the rotary actuators (26, 46, 56, 146) that have a bender construction (piezoelectric actuators).

Regarding claims 6 and 7, the rotary actuators (56, 146) each extend in a curve between the sound generating element and the support structure, wherein the curve is an arc of a circle as claimed (figures 5B, 5C, 14).

Regarding claim 9, the rotary actuators (46, 56, 146) are each coupled at one end to the sound generating element (45, 55, 145) and at the other end to the support structure (48, 51, 140) as claimed.

Regarding claims 10, 11, 16 and 32, Longbottom et al. teaches a drive circuit for supplying a drive signal to each actuator as claimed (col. 3, lines 28-65, col. 4, lines 29-45, col. 8, lines 22-24, figures 5B, 5C, 14), and the drive circuit that is arranged to process the drive signals by a head-related transfer function as claimed (col. 6, lines 9-16).

Regarding claims 18-20 and 30, as broadly claimed, Longbottom et al. teaches the sound generating element (145) comprising a sheet having a physical property which varies across the sheet between the two actuators (col. 6, lines 60-64).

Regarding claim 21, as broadly claimed, Longbottom et al. teaches the stiffness of the sheet (145) is lower along a central line between the actuators than in portions on either side of the central line (figure 14).

Regarding claims 22 and 23, Longbottom et al. teaches the sheet (145) comprising a material and the thickness as claimed (figure 14).

Regarding claims 25-26, Longbottom et al. teaches the sheet or the sound generating element that is a transparent (col. 8, lines 54-55) and covers a display device as claimed (figures 1A, 2, 8A, 14).

***Allowable Subject Matter***

3. Claim 29 have been allowed.
4. Claims 8, 12-15, 17 and 24 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

***Conclusion***

5. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Azima et al. (US 6,332,029) teaches an acoustic device comprising a distributed mode radiator panel.

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to HUYEN D. LE whose telephone number is (571) 272-7502. The examiner can normally be reached on 9:30AM-6:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, CURTIS KUNTZ can be reached on (571) 272-7499. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/HUYEN D. LE/  
Primary Examiner, Art Unit 2614

HL  
January 16, 2010